

CLAIMS

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1.

1.

A soil compaction roller comprising a multi-sided, out-of-round, peripheral compacting surface which can roll over a soil surface which is to be compacted, the compacting surface being defined by a plurality of angularly spaced salient points and a corresponding plurality of compacting faces, each compacting face being outwardly convex in shape and extending continuously between two adjacent salient points.

2.

A soil compaction roller comprising a multi-sided, out-of-round, peripheral compacting surface which can roll over a soil surface which is to be compacted and which is defined by a plurality of angularly spaced salient points and intermediate compacting faces which are outwardly convex in shape and extend between the salient points, whereby when the roller is operative with the compacting surface rolling over the soil surface, the roller rises up on each salient point in turn, storing potential energy, and thereafter rolls downwardly onto the succeeding compacting face to transmit the stored potential energy to the soil surface to compact it, the instantaneous centre of rotation of the compacting surface, where it contacts the soil surface during rolling, moving continuously about substantially the full extent of the compacting surface.

3.

A soil compaction roller according to either one of the preceding claims wherein the salient points are equi-angularly spaced about a central axis of the roller and are equidistant from that axis.

4.

A soil compaction roller according to claim 3 wherein each compacting face is symmetrical about a radial bisector of the two salient points between which the compacting face extends.

Sub Q21 5.

A soil compaction roller according to any one of the preceding claims wherein each compacting face is smoothly curved.

Sub 93 6.

A soil compaction roller according to any one of claims 1 to 4 wherein each compacting face comprises a plurality of flat facets which in combination form an outwardly convex shape.

Sub Q 47.

A soil compaction roller according to any one of the preceding claims comprising a first series of wear plates defining the salient points and a second series of wear plates defining the compaction faces.

8.

A soil compaction roller according to claim 7 comprising a central hub and a plurality of spokes connecting the wear plates of the second series to the hub.

9.

A soil compaction roller according to claim 8 comprising stiffening ribs located internally of the wear plates at the lateral edges of the wear plates, the stiffening ribs being connected to the wear plates and to the spokes.

Sub A5^{10.}

A soil compaction machine comprising a soil compaction roller according to any one of the preceding claims.

11.

A soil compaction machine according to claim 10 which comprises a pair of the soil compaction rollers arranged side by side with one another.

12.

A soil compaction machine according to claim 11 wherein the soil compaction rollers are mounted on a common axle.

13.

A soil compaction machine according to claim 11 wherein the soil compaction rollers are suspended independently on separate axles.

14.

A soil compaction machine according to claim 11 which is self-propelled.

15.

A soil compaction machine according to claim 11 which includes coupling means for coupling the machine to a tractive vehicle.

16.

A soil compaction machine according to claim 11 and comprising means for delivering an auxiliary rotary driving force to each roller.

FOOTNOTES: 0000000000